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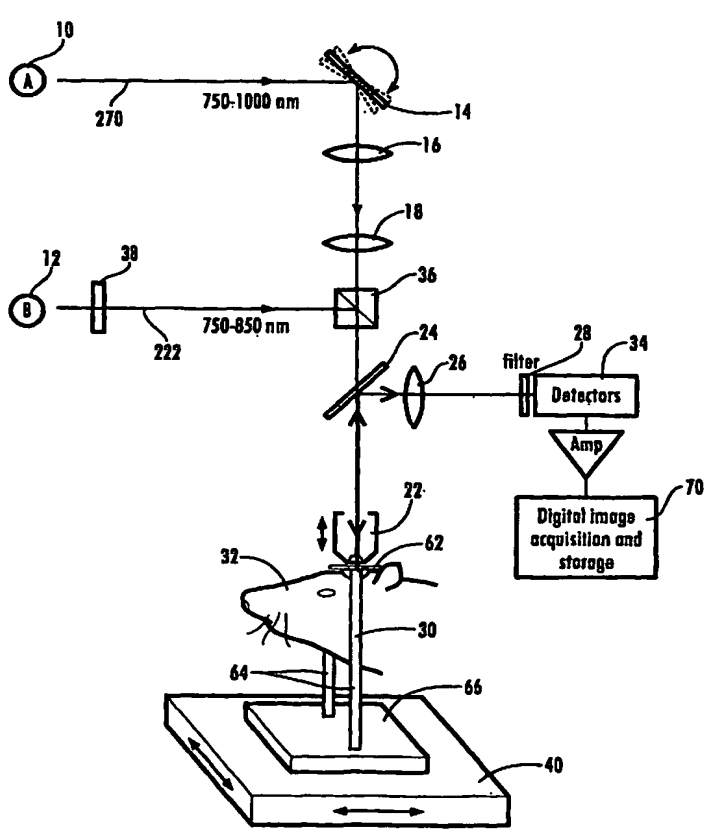
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(54) Title: **DEVICE AND METHOD FOR INDUCING VASCULAR INJURY AND/OR BLOCKAGE IN AN ANIMAL MODEL**



(57) Abstract: Ultrashort laser pulses are used to induce photodisruptive breakdown in vasculature in an animal to controllably produce hemorrhage, thrombosis or breach of the blood- brain barrier in individual, specifically-targeted blood vessels. Damage is limited to the targeted vessels such that neighboring vessels exhibit no signs of vascular damage, including vessels directly above and directly below the targeted vessel. Ultrashort laser pulses of lower energy are also used to observe and quantify the baseline and altered states of blood flow. Observation and measurement may be performed by TPLSM, OCT or other known techniques, providing a real-time, *in vivo* model for the dynamics and effects of vascular injury.



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